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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,371	01/30/2006	Dieter Barfurth	283348US0PCT	2106
22850	7590	08/13/2009	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, LLP 1940 DUKE STREET ALEXANDRIA, VA 22314			SASTRI, SATYA B	
		ART UNIT		PAPER NUMBER
		1796		
			NOTIFICATION DATE	DELIVERY MODE
			08/13/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/566,371	BARFURTH ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	SATYA B. SASTRI	1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 5/28/09.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,2,4-8 and 10-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,2,4-8 and 10-20 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ .	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____ .

**DETAILED ACTION**

1. This office action is in response to amendment filed on 5/28/09. Claims 1, 2, 4-8, 10-20 are now pending in the application.
2. As noted in paragraph 2 of the prior office action, applicants are requested to file a certified copy of German application (DE 103 34 574.4) as required by 35 U.S.C. 119(b).

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the presently amended claim 1 recites the limitation “wherein the water has a surfactant content of from 8.8% to 15% by wt. of the water”. The specification does not provide support for the claimed end point of 8.8% by wt. of water. It is noted in the applicants' remarks section that support for the claimed range is based on the working examples in the specification as originally filed. However, examiner notes that the disclosed amount of 8.8% in the working

examples is specific to octylphenol ethoxylate as the surfactant, to the specific monomers and organosilanes used therein and not generic to the monomers and organosilanes as presently recited in amended claim 1. Claims 2, 4-8, 10-20 depend on the rejected claim 1.

Claims 7 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the presently amended claim 1 recites a Markush group that includes “polyvinylacrylate” which element is unsupported by the specification.

***Previously Cited Statutes***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite because the claim language lacks clarity and appears to have conflicting claim limitations. It is noted that claim 1 is directed to a polymer dispersion. Additionally, the claim limitation “wherein components (i) and (ii), the monomer and optionally the component (iii) are incorporated into the polymer” suggests that the polymer dispersion

comprises a polymer and additional components recited in the claim, i.e. a surfactant and water. However, further claims limitations such as “wherein the wt. ratio of the monomer to the water is from 40:60 to 55:45” and “wherein the amount of components (i) and (ii) ranges from 0.2 to 1.5 % by wt., based on the wt. of the monomer” are limitations of a polymerizable mixture and not that of the polymer dispersion because the latter does not contain monomer and components (i) and (ii) in unpolymerized form. Thus, the claim language is confusing. In the rejections set forth below, claim 1 is interpreted as being drawn to a polymer dispersion comprising a polymer, water and surfactant wherein the dispersion is made from a composition that comprises the various components in the specified ratio.

7. Claims 1, 2, 4-8, 10-17, 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eck et al. (US 5,753,733).

The discussions with regard to Eck et al. in paragraphs 9 and 10 of the office action dated 3/13/09 are incorporated herein by reference.

In summary, Eck et al. disclose redispersible homopolymers and copolymers of ethylenically unsaturated monomers and one or more organosilicon compounds (col. 2, lines 8-67, col. 3, col. 4). The monomers are polymerized in the presence of 0.1 to 30% by wt. relative to the wt. of the monomers, of one or more silicon compounds (col. 1, lines 63-67). The polymerization is preferably carried out by emulsion polymerization, employing emulsifiers in an amount of 0 to 6% by wt., based on the total wt. of the monomers (col. 6, lines 22-35).

Working examples disclose the use of a combination of organosilicon compounds, i.e. methacryloxypropyltriethoxysilane and isooctyltriethoxysilane. Presently recited components (i) and (ii) of claim 1 read on the organosilicon compounds of this preferred embodiment.

The prior art fails to disclose compositions that satisfy the presently claimed wt. ratio for water to surfactant and monomer to water.

The prior art discloses an emulsifier content of 0-6% by wt. of the monomer. The lowest possible amount of surfactant calculated from the ratios recited in instant claim 1 is 7.2% based on the wt. of the monomer. However, differences in concentration or temperature will not support patentability of the subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. MPEP 2144.05. As such, Eck et al. recognize that emulsifiers influence the stability of the emulsion, thus it would be considered a result effective variable. It would have been obvious to one of ordinary skill in the art to have optimized the usable range of emulsifier through routine optimization. However, changes such as concentration of emulsifier may impart patentability to a composition if the particular concentration claimed produces a new and unexpected result which is different in kind and not merely in degree from the results of the prior art. *In re Boesch and Slaney*, 2003 USPQ 215 (CCPA 1980).

With regard to the amount of water in the compositions, Eck et al. disclose a dispersion having a solids content of preferably 20 to 60% (col. 7, lines 62-65). Given the teaching that emulsifiers may be used in amounts up to 6% by wt. of monomers and organosilicon compound may be present in amounts of from 0.1 to 30% by wt. of the monomers, it is the examiner's position that the disclosed range of the ratio of monomer to water content overlaps with the

presently claimed range. Additionally, the disclosed range of from 0.1 to 30% by wt. of the monomers for the organosilicon compound in Eck et al. reference overlaps with the presently claimed range of 0.1 to 1.5%. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). See MPEP § 2144.05.

With regard to claim 2, Eck et al. disclose that the polymerization may be carried out with initial introduction of all the constituents or individual constituents of the reaction mixture (col. 6, lines 1-35, col. 6-7, bridging paragraph, claims 6-8). Furthermore, the working example 1 discloses a process wherein monomer and the silicon-containing compounds are all emulsified into a solution of protective colloid. Given that the disclosure is open to use of emulsifiers and/or protective colloids, it would have been obvious to one of ordinary skill in the art at the time the invention was made to introduce the reactive components individually or as a mixture into water containing an emulsifier and polymerizing the mixture as claimed presently.

With regard to claim 4, working examples of Eck et al. reference disclose the organo silicon compounds within the presently claimed range.

With regard to claims 5 and 6, working examples disclose the use of a combination of organosilicon compounds, i.e. methacryloxypropyltriethoxysilane and isoctyltriethoxysilane.

With regard to claims 7, 12, 15, 16, 17, 19 and 20, the prior art discloses homopolymers and copolymers of vinyl acetate, (meth)acrylic acid esters, styrene and other monomers (col. 2, lines 28-67, col. 3, lines 1-30). Precursor stage of a polyvinyl alcohol and polyvinyl acetate as recited in instant claims 19 and 20 read on vinyl acetate monomer.

With regard to claims 10 and 11, Eck et al. disclose the use of dispersion powder (obtained by drying the aqueous dispersion) with hydraulic binder, for the preparation of building adhesives, plaster, stopper compositions etc. (col. 8, lines 25-42) and one of ordinary skill in the art would have found it obvious to use aqueous dispersions where appropriate.

With regard to claims 13 and 14, Eck et al. disclose vinyltriethoxysilane as preferred silicon containing monomer and silicic acid esters of  $\text{Si}(\text{OR}')_4$  and organoorganoxysilane of  $\text{SiR}_n(\text{OR}')_{4-n}$  type with  $\text{R}'$  having 1-4 carbon atoms and  $\text{R}$  having 1 to 22 carbon atoms as preferred non-copolymerizable organosilicon compounds (col. 4, lines 30-53).

### ***Response to Arguments***

8. In view of the amendment, all claim objections and rejection of claim 8 under 35 U.S.C. 112, second paragraph, as being indefinite are all withdrawn. In view of the amendment of claims, the rejection of claims 1-11 under 35 U.S.C. 103(a) as being unpatentable over Tamori et al. (EP 1172412A1), the rejection of claim 1 under 35 U.S.C. 102(b) as being anticipated by Eck et al. (US 5,753,733) and the rejection of claims 2-11 35 U.S.C. 103(a) as being unpatentable over Eck et al. (US 5,753,733) are all withdrawn.

Applicant's argument that the Eck et al. reference teaches away from the instant invention is not found persuasive. Applicants arrive at this conclusion based on their theoretical calculation of the lowest permissible amount of emulsifier in the presently claimed dispersion, which is 7.2% by wt. based on the wt. of the monomers, as opposed to a range of 0-6% taught by Eck et al. Even though the usable amount of emulsifier in Eck et al. compositions is lower than

the lowest permissible amount of the present invention, it is the examiner's position that the component in question is a result effective variable because altering the amount of this component would affect the stability of the dispersion. Thus, the optimum amount of the result effective variable may be ascertained through routine optimization and one skilled in the art would have arrived at emulsifier amounts including those within the scope of present invention. Applicant's data does not provide any evidence of unexpected results to demonstrate the criticality of the presently claimed range of emulsifier.

Claims have been amended to recite limitations from the specification. The new grounds of rejections presented herein have been necessitated by the amendment and thus, the action is properly made final.

### *Conclusion*

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri at (571) 272 1112. The examiner can be reached on Mondays, Thursdays and Fridays, 7AM-5.30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. David Wu can be reached on 571-272-1114.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Satya B Sastri/

Examiner, Art Unit 1796